EPSTEIN
BECKER
GREEN

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March 31, 2017

Email kivowitz.sharon@epa.gov
Sharon E. Kivowitz
Office of Regional Counsel
U.S. Environmental Protection Agency, Region 2
290 Broadway, 17th Floor
New York, NY 10007

Re: New Cassel Industrial Area

Dear Sharon:

On behalf of Island Transportation Corporation ("ITC") and IMC Eastern Corp. ("IMC") who are parties allegedly associated with what the Environmental Protection Agency ("EPA") has designated as the Western Plume. We write separately to provide comments regarding the EPA's proposed Pre-Design Investigation ("PDI") Statement of Work ("SOW") for Operable Unit 1 ("OU1") because certain other parties did not agree with our comments, which prevented submitting a single submission. As you are aware, the Western Plume parties have consistently and repeatedly pointed out deficiencies in EPA's Conceptual Site Model ("CSM"). The comments were first submitted in response to and incorporated into the Record of Decision in 2013 and have been submitted in response to the Proposed Remedial Action Plan and other various junctures during the discussions with EPA. We have also indicated that we would not be able to comply with the financial assurances provisions of the AOC given the status of our clients' insurance coverage. All of those past comments are incorporated herein by reference.

While EPA has proposed to confine discussion of the current issues to the PDI-SOW, this has not eliminated the issues with the CSM. To the contrary as the enclosed demonstrates, data gaps remain that will not be addressed by the proposed PDI and will not result in an effective or efficient remedy. In an effort to be brief, we will not repeat in detail the enclosed or the historic information, but instead just highlight the issues.

1. **The PDI Does Not Include Data That Will Delineate The Southwester Migration Of The Eastern Plume In OU1.**

Because the Eastern Plume sinks as it migrates, EPA's reliance on shallow groundwater data fails to adequately define the true limits of the Eastern Plume. Additional vertical profiling is necessary in the area of TMW-8D. Without the appropriate data, it is impossible to fashion an effective remedy.

2. The PDI Does Not Include Data Collection In The Area Of OU1 Already Impacted By Upgradient Sources

Data demonstrates that there are significant upgradient sources of contamination that have and will continue to impact groundwater within OU1. Additional data is necessary to fully investigate and remediate the contribution of these sources on OU1, but is not contemplated by the proposed PDI.

3. The PDI Does Not Address Data Gaps In The OU1 Western Plume

In addition to these deficiencies, EPA's proposed PDI does not fully address data collection in the Western Plume or the characteristics of contamination allegedly within the Western Plume. EPA is not proposing any sampling in the area of north of Old Country Road, but it is nevertheless focusing the remediation in that area. This focus is unwarranted as there has been no indication that there is contamination in the area. At a minimum the PDI should address this data gap to determine if a remedy is necessary and if so, to be certain that it is effective.

As set forth more fully within the enclosed information and in the comments previously submitted, the Western Plume parties continue to have significant concerns about the EPA's proposals. Accordingly, while ITC and IMC remain willing to meet with and discuss the proposed PDI-SOW and related documents, they are not agreeing to undertake same.

Very truly yours,

Sheila Woolson

Encls.
Cc: All Parties

Technical Comments Regarding US EPA's Proposed Pre-Design Investigation Statement of Work

New Cassel/Hicksville Groundwater Contamination Superfund Site

This document presents technical comments on the US EPA proposed Pre-Design Investigation (PDI) Statement of Work (SOW) for Operable Unit 1 (OU1) of the New Cassel/Hicksville Groundwater Contamination Superfund Site (Site; Figure 1). The PDI is based on a flawed Conceptual Site Model (CSM) that: 1) incorrectly concludes that the extent of the OU1 Eastern Plume is spatially limited by ignoring available data and US EPA's own contractor's conclusion (see Figures 2 and 3 – reproduced from EPA's contractor's memorandum; Lockheed Martin, 2013),[1] which show that the plume continues to migrate a significant distance to the west; and 2) ignores that the plume that originates upgradient of the NCIA (Upgradient Plume) is continuing to migrate into OU1. These critical CSM deficiencies have previously been presented in detail to US EPA in comments to the Proposed Remedial Action Plan (PRAP) filed by IMC Eastern, Corp. (Gradient, 2013)[2] and in prior comments to US EPA regarding the proposed PDI (Lucic, 2016).[3] Because the PDI is based on a flawed CSM, critical data needed to delineate the full lateral and vertical extent of OU1 groundwater impacts associated with the commingled plumes will not be collected, thus resulting in a failed remedy. Data gaps (Figure 4) that will not be addressed by US EPA's proposed PDI are outlined below.

1 US EPA's PDI proposes no data to delineate the southwestern migration of the OU1 Eastern Plume

Groundwater quality data demonstrate that the Eastern Plume migrates both to the south and the southwest. Groundwater quality profiling data from location TMW-8D (Dvirka and Bartilucci, 2009)[4] show the presence of key Eastern Plume contaminants [tetrachloroethene (PCE) and trichloroethene (TCE)]. At this location, PCE was detected at a maximum concentration of 680 µg/L at 337 ft-bgs, whereas TCE was detected at a maximum concentration of 280 µg/L at 312 ft-bgs. TMW-8D is approximately 1,000 feet farther west than the US EPA-defined Eastern Plume (Figure 5) and is inexplicably ignored by US EPA in defining the extent of the Eastern Plume.

It appears that US EPA is relying on shallow groundwater quality data (from MW-15 and MW-16S/D) to justify their limited interpretation of the western extent of the Eastern Plume. This approach is incorrect because these monitoring wells are too shallow to adequately define the Eastern Plume's extent.[5] The Eastern Plume sinks as it migrates due to the downward vertical gradients resulting from groundwater extraction at the Bowling Green well field.[6] Consequently, the Eastern Plume has already migrated deeper than the screened well intervals of monitoring wells MW-15 and MW-16S/D. As illustrated on

[1] Lockheed Martin Technology Services [US EPA Contractor]. 2013. "Letter Report to J. Cantanzarita (US EPA) re: Supplemental Remedial Investigation Technical Memorandum, New Cassel/Hicksville Ground Water Contamination Site, Nassau County, New York." 222p. July 19.

[2] Gradient. 2013. "Comments on the Proposed Plan for Operable Unit 1 of the New Cassel/Hicksville Groundwater Contamination Superfund Site." September 23.

[3] Lucic. 2016.

[4] Dvirka and Bartilucci Consulting Engineers. 2009. "Pre-Design Investigation Report: New Cassel Industrial Area Site, Operable Unit No. 3, Town of North Hempstead, Nassau County, New York, Site No. 1-30-043." Report to New York State Dept. of Environmental Conservation (NYSDEC) Work Assignment No. D004446-6. 1102p. June.

[5] Jeffrey Dyber, the New York State Department of Environmental Conservation (NYSDEC) project manager for the NCIA, corroborated these conclusions regarding MW-15. In his testimony during the Next Millennium Realty trial on April 11, 2016, he stated that data from MW-15 is not sufficient for defining the extent of the Eastern Plume because only one sample has been collected from only a single depth (p. 102).

[6] The Bowling Green wells, which are screened at depths ranging from approximately 480 to 580 ft-bgs and pump at an average flowrate of 1,200 gallons per minute, have influenced plume migration by drawing contamination vertically downward.

Figure 6, vertical profiling data from TMW-8D show the presence of PCE and/or TCE with concentrations above 100 µg/L at depths ranging from 292 to 372 ft-bgs, whereas the adjacent monitoring wells MW-16S and MW-16D only extend to 285 ft-bgs. Thus, MW-16S and MW-16D are too shallow and should not be relied upon to define the extent of the Eastern Plume. In contrast, data collected at TMW-8D clearly demonstrate that high PCE and/or TCE concentrations associated with the Eastern Plume are present at least 1,000 feet beyond the extent of the Eastern Plume depicted by US EPA.

Additionally, historical data demonstrate the southwestern migration of the Eastern Plume within OU1. At the Bowling Green Water Supply Wells (Figure 5), total chlorinated volatile organic compound (CVOC) concentrations have been in excess of 100 µg/L since approximately 2002 (Figure 7). Contaminants detected at the highest concentrations at these wells are PCE and TCE, constituents associated with the Eastern Plume. PCE and TCE have also been detected at nearby sentinel wells, EW-1B and EW-1C.[7] These data further demonstrate that the Eastern Plume has migrated to the southwest, well beyond the limited extent depicted by US EPA.

In order to design an effective remedy it is critical that additional vertical profiling be conducted in the area of TMW-8D and in the area of the Bowling Green well field (see central cross-hatched area on Figure 4) to fully define the extent of the Eastern Plume. However, no such data collection is proposed in the PDI SOW. If these data gaps are not addressed, a significant portion of the Eastern Plume will not be delineated and will not be addressed effectively by the proposed remedy.

2 US EPA's PDI proposes no data collection in the area of OU1 which has been impacted by the Upgradient Plume

Significant chlorinated solvent releases have been reported at properties upgradient of the NCIA (Upgradient Parties) that have caused and are causing impacts to groundwater quality in OU1. Environmental investigations have been undertaken at these sites since the 1980s with oversight from county, state, and federal authorities (Lockheed Martin, 2013). Elevated PCE and TCE concentrations in groundwater, consistent with the presence of non-aqueous phase liquids (NAPL), have been found at the Sylvania and GI/Vishay Sites. PCE concentrations up to 32,000 µg/L (P-108, 74 ft-bgs; Lockheed Martin, 2013) have been detected at the Sylvania facility, and TCE has been detected at concentrations up to 48,000 µg/L (W-1-75, 65-75 ft-bgs; ESC, 2006)[8] at the GI/Vishay facility.

Multiple lines of evidence, including groundwater chemistry data from numerous vertical profiling locations and groundwater modeling results conducted by GI/Vishay, demonstrate that contamination from the Sylvania and GI/Vishay facilities has migrated in a southwesterly direction into OU1. These data have been presented previously to US EPA (Gradient, 2013; Lucic, 2016). Taken together, the data demonstrate that the Upgradient Plume has migrated into OU1 and that additional data are needed to fully define the western extent of the Upgradient Plume in OU1. However, no data collection is proposed in the PDI from areas where the Upgradient Plume flows into OU1 and commingles with the Eastern Plume (Figure 4). Such data is necessary to define the full extent of groundwater contamination in OU1 – a critical requirement for the design and implementation of an effective remedy.

[7] At EW-1B, PCE was detected at a maximum concentration of 1,000 µg/L and TCE was detected at 120 µg/L; At EW-1C, PCE was detected at a maximum concentration of 446 µg/L and TCE was detected at 216 µg/L.

[8] ESC Engineering of New York, P.C. (ESC). 2006. "May 2006 Semiannual Groundwater Monitoring Report, Former General Instrument Corporation Site, Hicksville, New York." 133p. August 23. [SDOH252658 - SDOH252789.]

3 US EPA's PDI proposes no data collection in the upgradient portion of the OU1 Western Plume

US EPA's PDI will not address existing data gaps in the western portion of OU1 despite the fact that much of the proposed remedy's focus is in this area. No data collection is proposed to delineate the undefined, upgradient portion of the Western Plume in OU1 (*i.e.,* area north of Old Country Road; Figure 8), nor has US EPA ever indicated that groundwater in this area exceeds the threshold for remediation (greater than 100 µg/L total CVOCs). Despite this, EPA's preliminary OU1 remedy locates four in-well stripping wells and one groundwater extraction well to capture and remediate groundwater coming from this uncharacterized area.

US EPA's focus on remediating the uncharacterized area north of the OU1 Western Plume is particularly unusual considering that the NCIA Western Plume is shallow and concentrations attenuate rapidly with both depth and distance from source. The maximum PCE and TCE concentrations detected in the NCIA Western Plume were located at depths ranging from 50 to 85 ft-bgs (Gradient, 2013); the NCIA Western Plume has not been detected at depths below 130 to 140 ft-bgs (Figure 8). Additionally, the maximum historical extent of the NCIA Western Plume never reached the boundary of the New Cassel Hicksville Groundwater Contamination Site boundary (Figure 8). This conclusion was affirmed by the NYSDEC in the 2003 ROD for off-site groundwater (NYSDEC, 2003).[9] As reported in the ROD (Table 1), the maximum PCE concentration detected in the downgradient NCIA Western Plume south of Old Country Road was 1 µg/L, TCE was not detected, and the maximum reported total VOC concentration was 3 µg/L.

[NCIA] Western Plume
1996 - 2000 Data

Contaminant of Concern	Range of Detected Concentration North of Old Country Road (ppb)				Range of Detected Concentration South of Old Country Road (ppb)				SCGs (ppb)
	50-99 ft	100-124 ft	125-200 ft	200+ ft	50-99 ft	100-124 ft	125-200 ft	200+ft.	
Trichloroethylene	2 j-73	2 j-8 j	-	-	ND	ND	ND	-	5
Tetrachloroethylene	1 j-96	1 j-4 j	-	-	1 j	ND	ND	-	5
Trichloroethane	1 j-52	3 j	-	-	1 j-2 j	2 j	2 j	-	5
Total VOC's*	1-207	1-38	-	-	1-3	ND	1-3	-	100

Table 1 NCIA Western Plume Groundwater Concentration Summary (Source: Table 2 of ROD; NYSDEC, 2003)

It is critical that additional vertical profiling sampling be conducted in the area of north of Old Country Road in the western portion of OU1 to determine whether this area requires remediation. However, no such data collection is proposed in the PDI SOW. If these data gaps are not addressed, along with modifications to the remedy, US EPA's proposed remedy will be inefficient and could result in the unnecessary expenditure of significant resources in an area where no remediation is required.

Overall, the PDI proposes only to collect additional OU1 groundwater quality data from limited areas within the boundaries of the US EPA's plume depictions. Consequently, the PDI will not address

[9] New York State Dept. of Environmental Conservation (NYSDEC). 2003. "Record of Decision, New Cassel Industrial Area Sites, Town of Hempstead, Nassau County, New York. Off-Site Groundwater South of the New Cassel Industrial Area, Operable Unit No. 3." October.

multiple outstanding data gaps and will fail to delineate the full extent of OU1 groundwater impacts which will result in a failed and ineffective remedy.

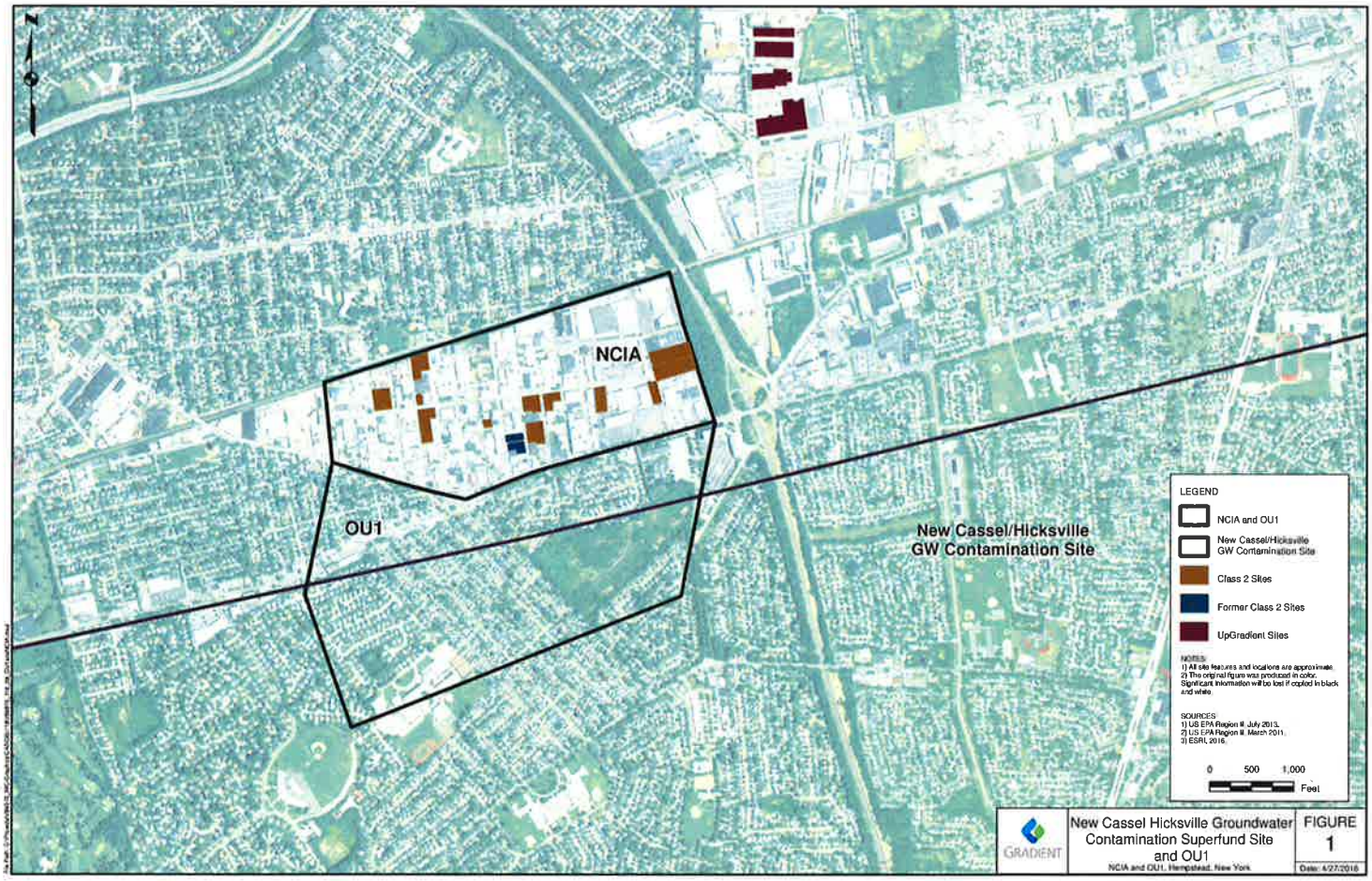
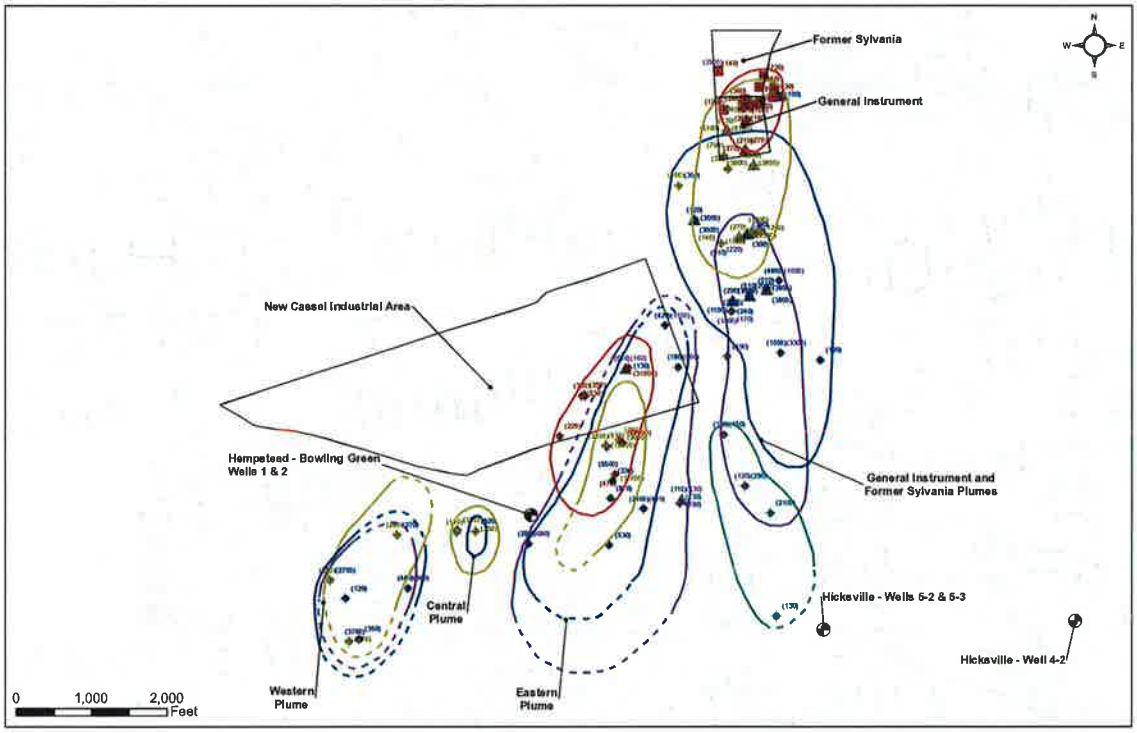
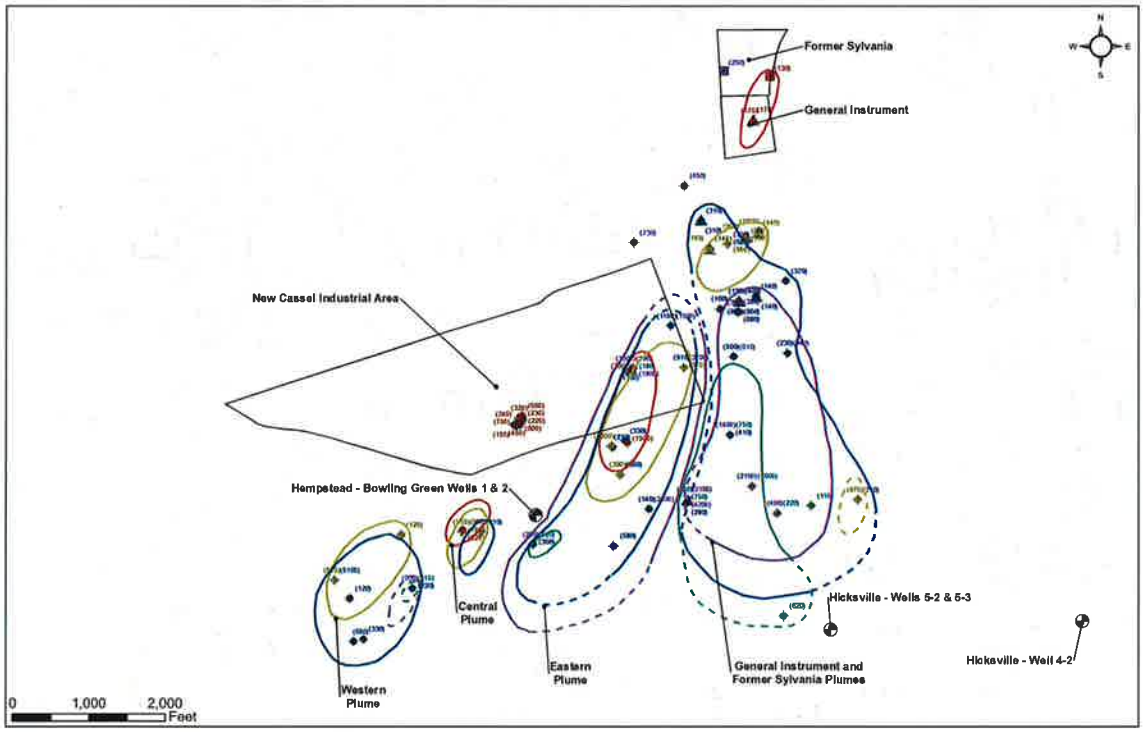

NCIA
OU1
New Cassel/Hicksville
GW Contamination Site
LEGEND
NCIA and OU1
New Cassel/Hicksville GW Contamination Site
Class 2 Sites
Former Class 2 Sites
UpGradient Sites
NOTES:
1) All site features and locations are approximate.
2) The original figure was produced in color. Significant information will be lost if copied in black and white.
SOURCES:
1) US EPA Region II, July 2013.
2) US EPA Region II, March 2011.
3) ESRI, 2016.
0
500
1,000
Feet
GRADIENT
New Cassel Hicksville Groundwater Contamination Superfund Site and OU1
NCIA and OU1, Hempstead, New York
FIGURE
1
Date: 4/27/2016

Figure 2



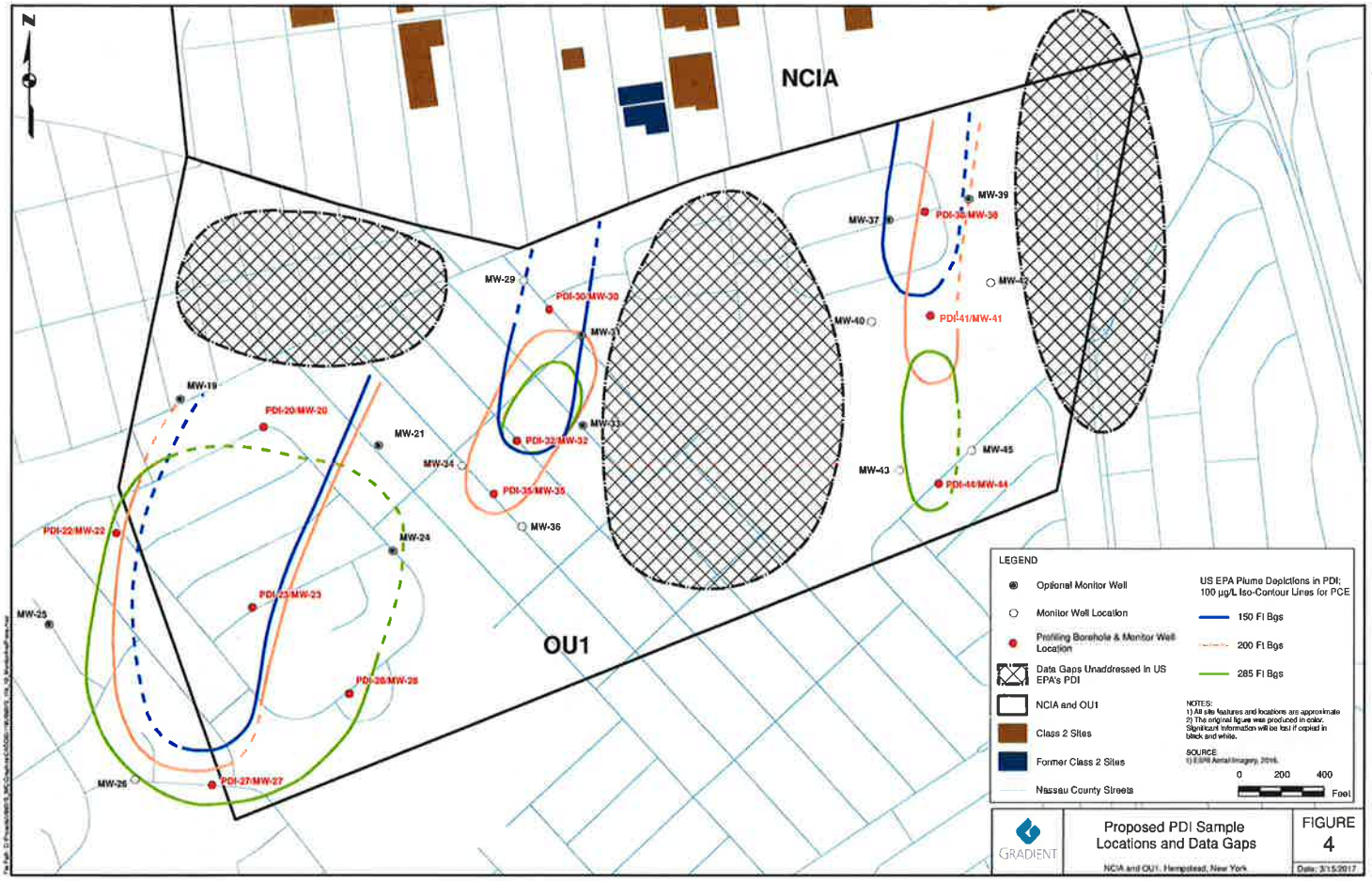
Map Content: Base Map supplied by ESRI, Sample Locations supplied by EPA Map Creation Date: 29 December 2011 Coordinate System: New York State Plane Long Island FIPS: 3104 Datum: NAD83 Units: Feet	**NCHGW Superfund Site** **100 ug/L isoconcentration Contours for Tetrachloroethylene (PCE)**	U.S EPA Environmental Response Team Scientific Engineering Response and Analytical Services EP-W-09-031 W.A.# 0-144	Figure 6 NCHGW Superfund Site 100 ug/L Isoconcentration Contours for Tetrachloroethylene (PCE) Nassau County, New York

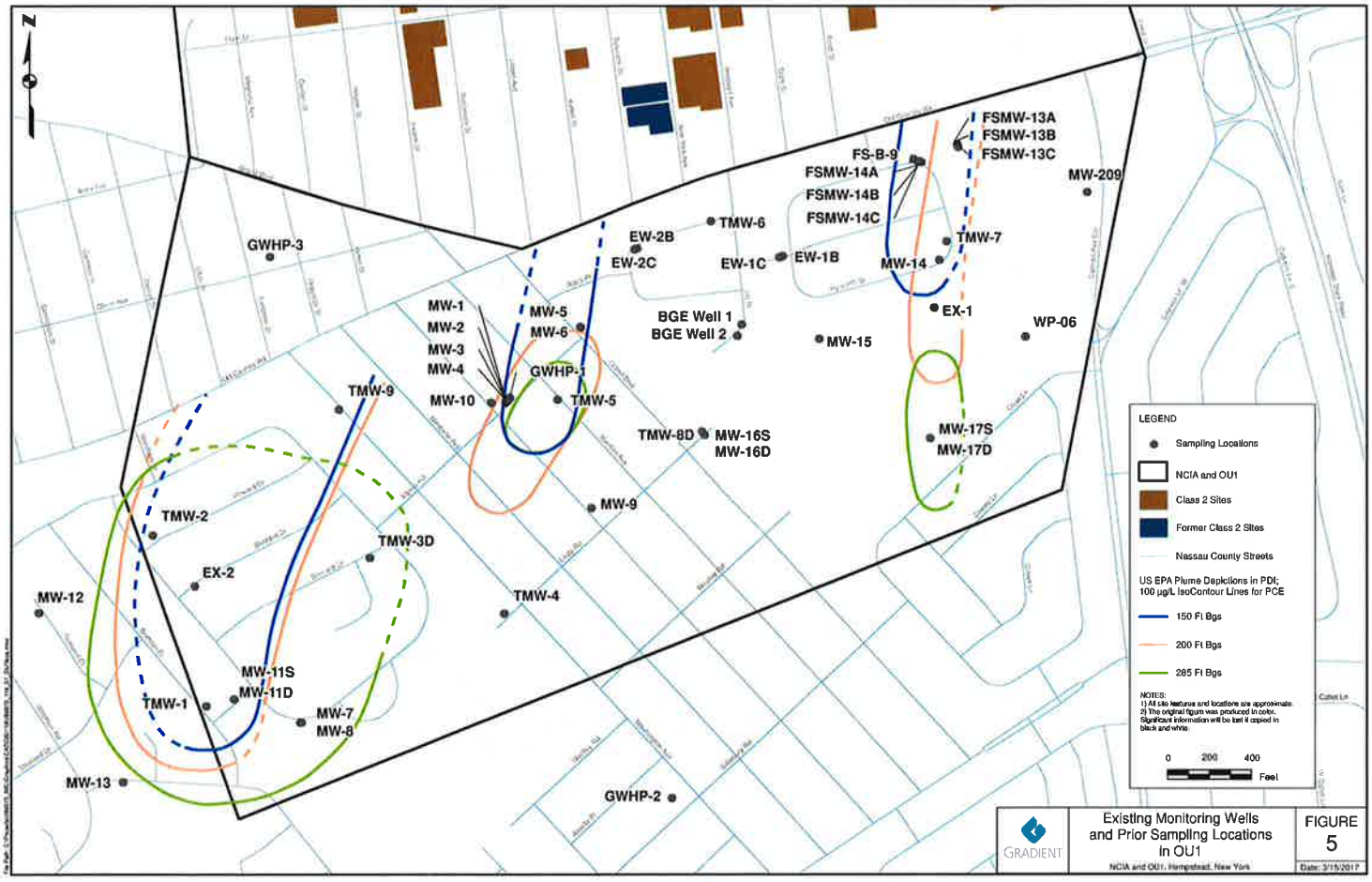
Figure 3

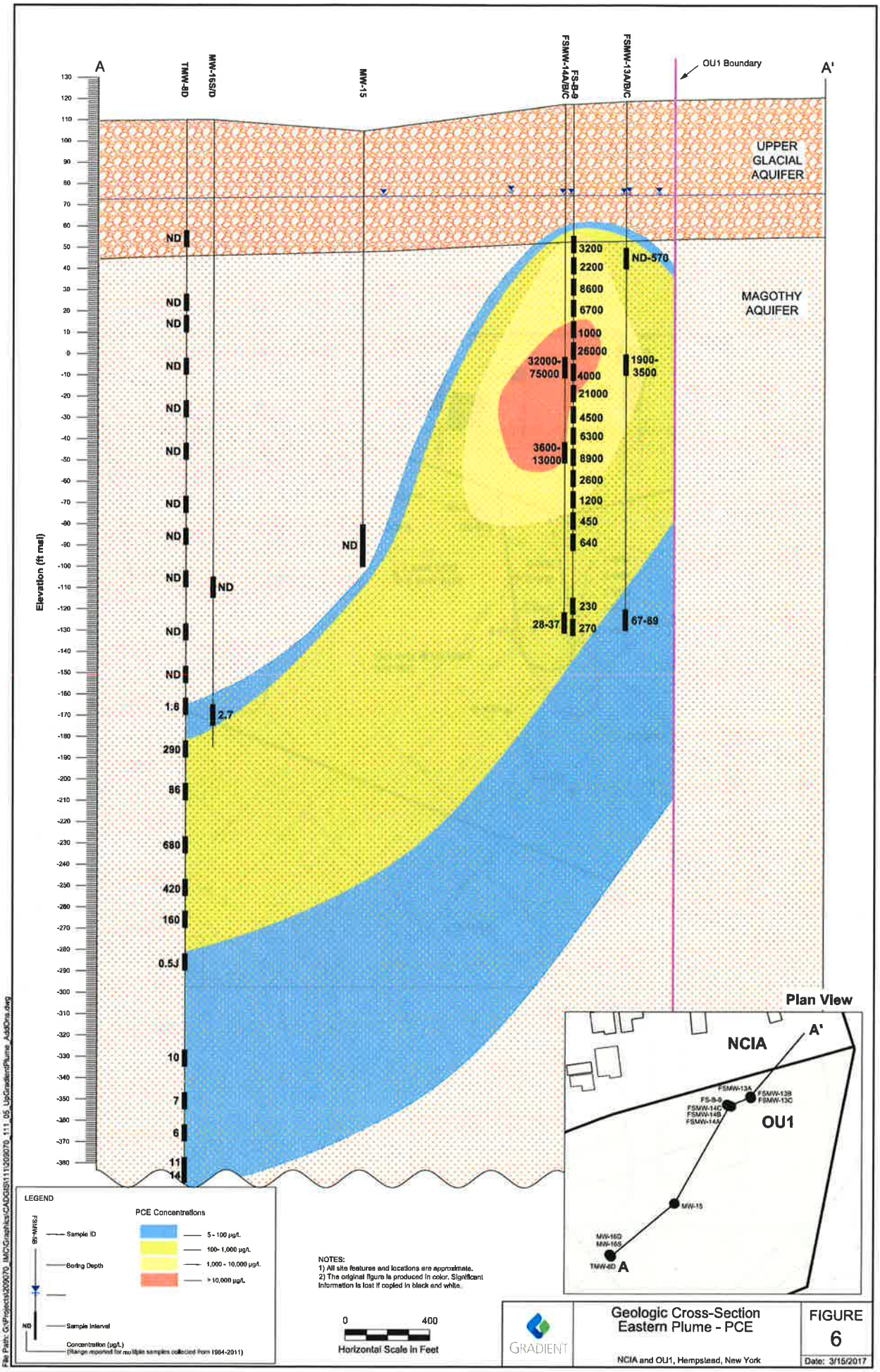


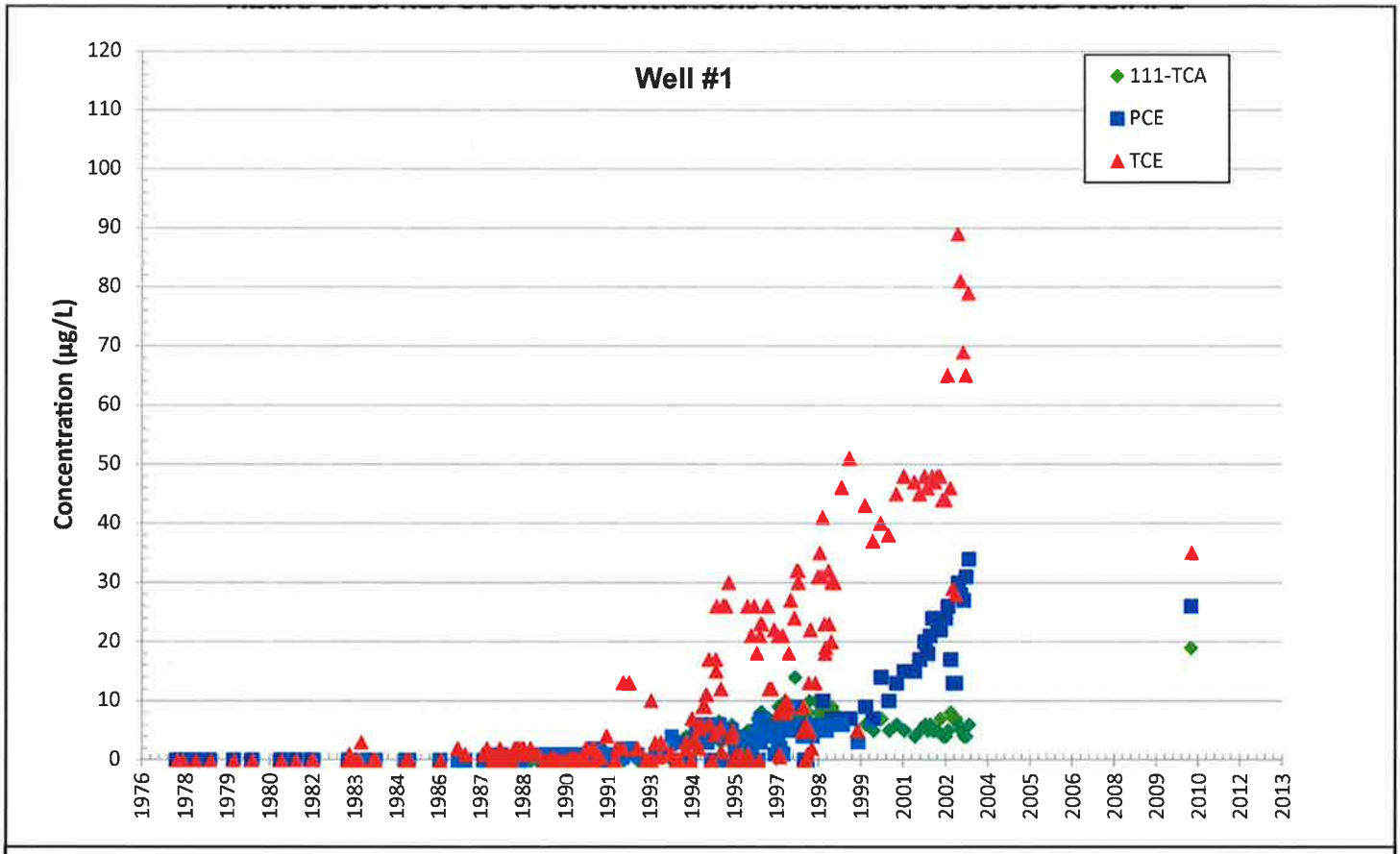
Map Content: Base Map supplied by ESRI, Sample Locations supplied by EPA Map Creation Date: 29 December 2011 Coordinate System: New York State Plane Long Island FIPS: 3104 Datum: NAD83 Units: Feet	**NCHGW Superfund Site** **100 ug/L isoconcentration Contours for Trichloroethylene (TCE)**	U.S EPA Environmental Response Team Scientific Engineering Response and Analytical Services EP-W-09-031 W.A.# 0-144	Figure 9 NCHGW Superfund Site 100 ug/L isoconcentration Contours for Trichloroethylene (TCE) Nassau County, New York

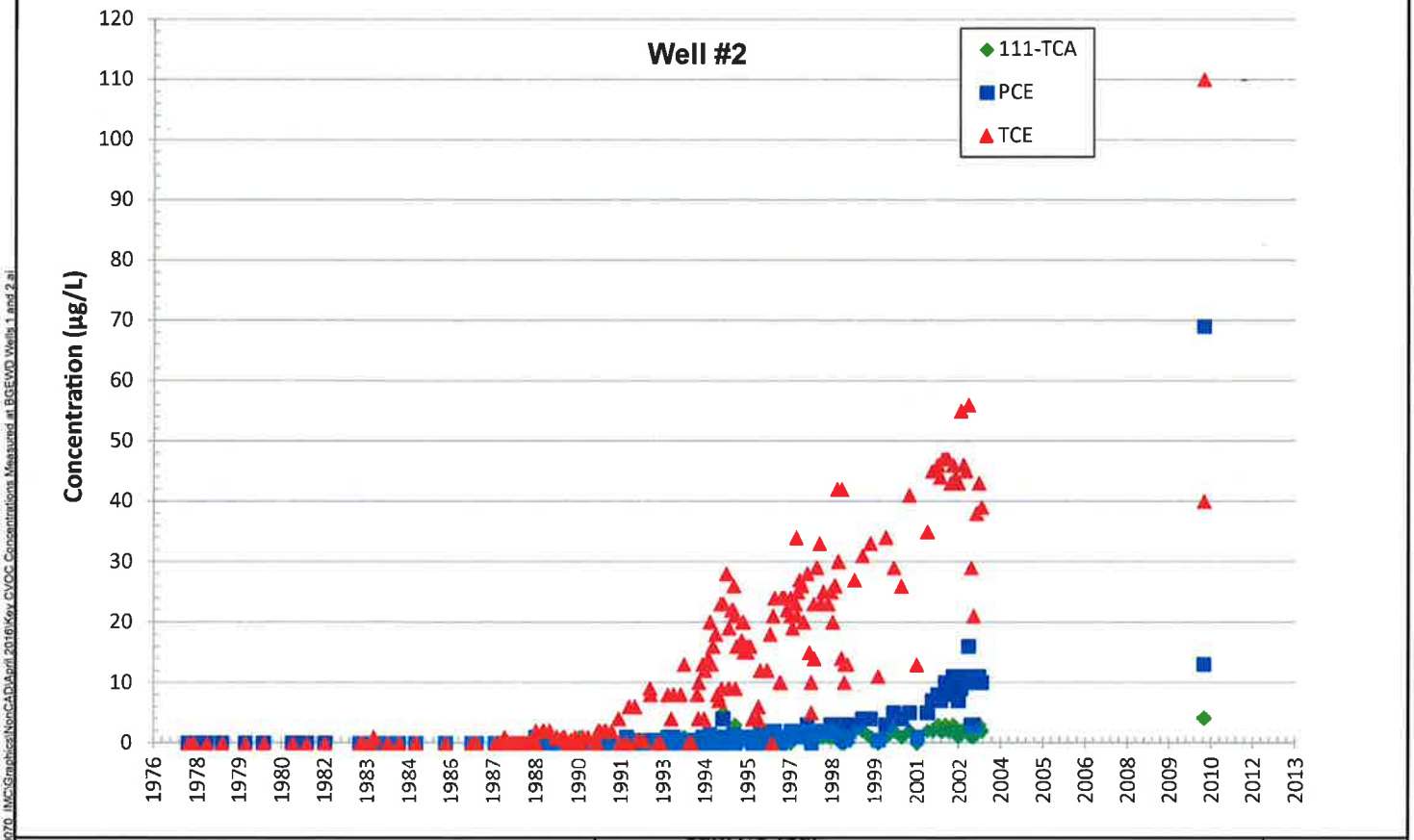
R2-0011943


N
NCIA
OU1
MW-19
MW-20
MW-21
MW-22
MW-23
MW-24
MW-25
MW-26
MW-27
MW-28
MW-29
MW-30
MW-31
MW-32
MW-33
MW-34
MW-35
MW-36
MW-37
MW-38
MW-39
MW-40
MW-41
MW-42
MW-43
MW-44
MW-45
PDI-20/MW-20
PDI-22/MW-22
PDI-23/MW-23
PDI-26/MW-26
PDI-27/MW-27
PDI-30/MW-30
PDI-32/MW-32
PDI-35/MW-35
PDI-38/MW-38
PDI-41/MW-41
PDI-44/MW-44
LEGEND
Optional Monitor Well
Monitor Well Location
Profiling Borehole & Monitor Well Location
Data Gaps Unaddressed in US EPA's PDI
NCIA and OU1
Class 2 Sites
Former Class 2 Sites
Nassau County Streets
US EPA Plume Depictions in PDI: 100 µg/L Iso-Contour Lines for PCE
150 Ft Bgs
200 Ft Bgs
285 Ft Bgs
NOTES:
1) All site features and locations are approximate
2) The original figure was produced in color. Significant information will be lost if copied in black and white.
SOURCE
1) ESRI Aerial Imagery, 2016.
0
200
400
Feet
GRADIENT
Proposed PDI Sample Locations and Data Gaps
NCIA and OU1, Hempstead, New York
FIGURE 4
Date: 3/15/2017


N
FSMW-13A
FSMW-13B
FSMW-13C
FS-B-9
FSMW-14A
FSMW-14B
FSMW-14C
MW-209
GWHP-3
EW-2B
EW-2C
TMW-6
EW-1C
EW-1B
MW-14
TMW-7
MW-1
MW-2
MW-3
MW-4
MW-5
MW-6
BGE Well 1
BGE Well 2
EX-1
WP-06
MW-15
GWHP-1
MW-10
TMW-5
TMW-9
TMW-8D
MW-16S
MW-16D
MW-17S
MW-17D
MW-9
TMW-2
TMW-3D
EX-2
MW-12
TMW-4
MW-11S
MW-11D
TMW-1
MW-7
MW-8
MW-13
GWHP-2
LEGEND
Sampling Locations
NCIA and OU1
Class 2 Sites
Former Class 2 Sites
Nassau County Streets
US EPA Plume Depictions in PDI;
100 µg/L IsoContour Lines for PCE
150 Ft Bgs
200 Ft Bgs
285 Ft Bgs
NOTES:
1) All site features and locations are approximate.
2) The original figure was produced in color. Significant information will be lost if copied in black and white.
0
200
400
Feet
GRADIENT
Existing Monitoring Wells and Prior Sampling Locations in OU1
NCIA and OU1, Hempstead, New York
FIGURE 5
Date: 3/15/2017


A
A'
TMW-8D
MW-16S/D
MW-15
FSMW-14A/B/C
FS-B-9
FSMW-13A/B/C
OU1 Boundary
UPPER GLACIAL AQUIFER
MAGOTHY AQUIFER
Elevation (ft msl)
ND
1.6
2.7
290
86
680
420
160
0.5J
10
7
6
11
14
3200
2200
8600
6700
1000
26000
4000
21000
4500
6300
8900
2600
1200
450
640
230
270
ND-570
1900-3500
67-89
32000-75000
3600-13000
28-37
Plan View
NCIA
OU1
FSMW-13A
FSMW-13B
FSMW-13C
FS-B-9
FSMW-14C
FSMW-14B
FSMW-14A
MW-15
MW-16D
MW-16S
TMW-8D
LEGEND
PCE Concentrations
Sample ID
Boring Depth
Sample Interval
Concentration (µg/L)
(Range reported for multiple samples collected from 1984-2011)
5 - 100 µg/L
100- 1,000 µg/L
1,000 - 10,000 µg/L
> 10,000 µg/L
NOTES:
1) All site features and locations are approximate.
2) The original figure is produced in color. Significant information is lost if copied in black and white.
0
400
Horizontal Scale in Feet
GRADIENT
Geologic Cross-Section
Eastern Plume - PCE
NCIA and OU1, Hempstead, New York
FIGURE
6
Date: 3/15/2017
File Path: G:\Projects\3090\70_IMC\Graphics\CAD\GIS\111\2009\70_111_05_UpGradientPlume_AddDta.dwg





File Path:G:\Projects\209070_IMC\Graphics\NonCAD\April 2016\Key CVOC Concentrations Measured at BGEWD Wells 1 and 2.ai

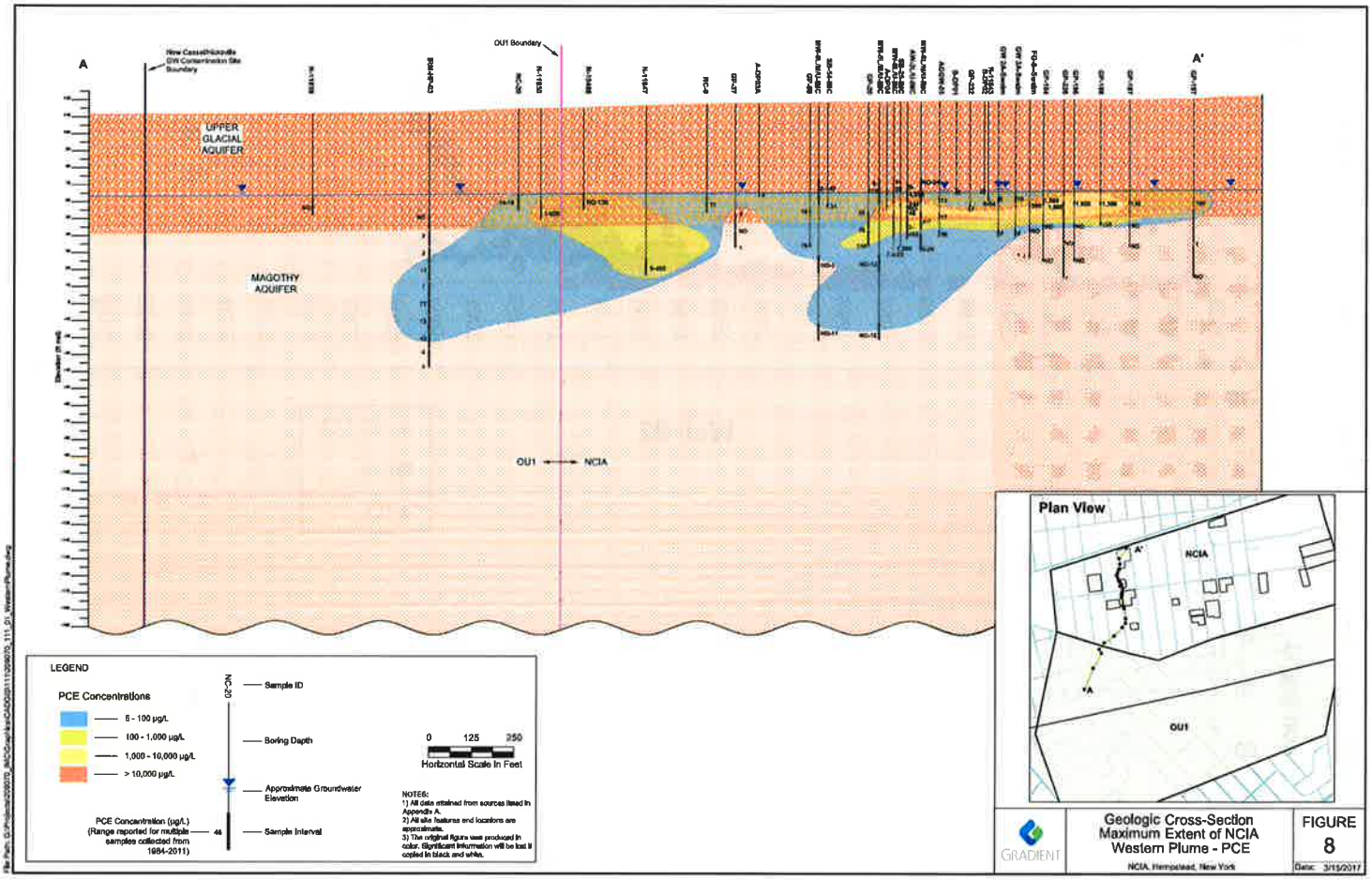
GRADIENT

Key CVOC Concentrations Measured at Bowling Green Estates Water District Wells #1 and #2

NCIA and OU1, Hempstead, New York

FIGURE 7

Date: 3/15/2017


A
A'
New Cassel/Hicksville GW Contamination Site Boundary
OU1 Boundary
UPPER GLACIAL AQUIFER
MAGOTHY AQUIFER
OU1
NCIA
Plan View
A
A'
NCIA
OU1
LEGEND
PCE Concentrations
5 - 100 µg/L
100 - 1,000 µg/L
1,000 - 10,000 µg/L
> 10,000 µg/L
PCE Concentration (µg/L) (Range reported for multiple samples collected from 1984-2011)
46
MW-20
Sample ID
Boring Depth
Approximate Groundwater Elevation
Sample Interval
0
125
250
Horizontal Scale In Feet
NOTES:
1) All data obtained from sources listed in Appendix A.
2) All site features and locations are approximate.
3) The original figure was produced in color. Significant information will be lost if copied in black and white.
GRADIENT
Geologic Cross-Section
Maximum Extent of NCIA
Western Plume - PCE
NCIA, Hempstead, New York
FIGURE
8
Date: 3/15/2017